

# **ENVIRONMENTAL IMPACT ASSESSMENT REPORT**

**For**

**SHIRLEY L. DAMBRO**

**CHADDS FORD TOWNSHIP,  
DELAWARE COUNTY, PA**

**JULY 9, 2018**

**REVISED: OCTOBER 22, 2020**

**REVISED: JUNE 9, 2021**

**REGEster ASSOCIATES, INC.**

LAND SURVEYING & CIVIL ENGINEERING  
[www.regesterassociates.com](http://www.regesterassociates.com)



821 EAST BALTIMORE PIKE / P.O. BOX 406  
KENNETT SQUARE, PA 19348  
PHONE (610) 444-5554  
FAX (610) 444-6149

330 WEST STATE STREET  
QUARRYVILLE, PA 17566  
PHONE (717) 786-8741  
FAX (717) 786-8742

## **PROJECT PROFILE**

The site of the proposed development consists of 32.797 acres and is located on the northwest side of Ridge Road (S.R. 3048) between Ring Road (S.R. 3027) and High Ridge Road. The property is situated in the central portion of Chadds Ford Township and is located entirely within the R-1 Residential District. There is an existing residence along with the associated driveway and related structures located on proposed Lot 1; otherwise there are no existing structures on the property, which is owned by Shirley L. Dambro and is currently used for open space. The subdivision will be developed under Article IV, R-1 District, Section 135-8(A), which permits development of the site for single-family residential use. The current subdivision design proposes nine single-family dwelling lots, one of which will have a gross lot area of 10.380 acres and the remaining eight single-family residential lots will range in gross lot area from 2.000 acres to 2.639 acres. The project is intended to serve the demonstrated market demand for transferees from outside the region, as well as those already with single-family dwellings in the area. The primary homeowners in this subdivision will be families with children. The single-family homes will provide approximately 3,772 to 4,560 square feet of living area with two-car garages.

This subdivision will be constructed in a single phase. A two-year buildout from start of construction is anticipated. The nine residential lots will be held under individual home ownership.

## **PHYSICAL RESOURCES & LAND USE CHARACTERISTICS**

Existing land uses on the subject property are residential, open space, woodlands and some scrub vegetation. The majority of the site consists of open space area. Existing land use in the area surrounding the site of the proposed subdivision is comprised of predominantly single family dwellings to the southwest and northeast and open space to the northwest and southeast. The Comprehensive Plan for Chadds Ford Township designates this site as "Substantively Divided Residential Properties with Detached Homes" comprised of nonresidential uses and higher density residential development. The R-1 Residential zoning classification is consistent with that goal and is intended to provide for logical growth of the Township population by allowing a higher density of development in areas planned for the location or extension of population centers.

The high point of the site is at approximate elevation 402.0 NAVD 88 and is located near the intersection of the eastern property line with lands N/L Margaret B. & Denise M. Day and the right-of-way of Ridge Road. The low point of the site is at approximate elevation 274.0 NAVD 88 and is located near the northwestern property corner. There are three separate watersheds on this tract. The largest watershed is comprised of approximately 14.40 acres and drains in a southwesterly direction towards a reservoir near Ringfield Road. A second watershed on the site is comprised of approximately 11.10 acres and drains in a southerly direction towards a reservoir near the intersection of Ridge Road and High Ridge Road. The third watershed on the site is comprised of approximately 7.30

acres and drains in a westerly direction towards the open space area adjacent to the tract into an unnamed tributary which flows to a nearby reservoir.

The Shirley L. Dambro site consists of varying topography, with approximately 74% percent of the site falling within the 0 to 15 percent slope range. Approximately 17% of the site falls within the 15 to 25 percent slope range and the remaining 9 percent falls within the 25 to 40% slope range. However, a large majority of the slopes over 25% shall be located on Lot 1, which proposes no development. The only existing impervious surfaces currently existing on the tract are on proposed Lot 1, which consist of a single-family dwelling, barn, driveway, garage, pool, pump house, and various other small related structures.

Based on data illustrated on the Chester County Flood Insurance Rate Maps #42045C0152G, dated July 5, 2017, there are no FEMA floodplain limits on this site. A wetlands delineation was performed on the site, by Brickhouse Environmental, field surveyed by Regeister Associates, Inc., and shown on the plans. The wetland areas will not be disturbed as a result of the proposed subdivision.

Based on the U.S.D.A Soil Survey for Chester and Delaware Counties, approximately 51 percent of the site contains is Brandywine soils, which are generally very conducive to the development. The Brandywine soils consist of an excessively drained silt loam. Based upon the U.S.D.A. Soil Survey, depth to seasonally high water table exceeds 6 feet, and depth to bedrock varies between 5 and 7 feet. The Brandywine soils are suitable for the installation of foundations for the single family dwellings.

An additional 36 percent of the site is comprised of Glenelg soils Group B, which are also very conducive to the development. The Glenelg soils consist of well drained channery silt loam underlain by schist, gneiss, gabbro, and granite materials. Based upon the U.S.D.A. Soil Survey, depth to seasonally high water table exceeds 6 feet, and depth to bedrock varies between 5 and 10 feet. The remaining 13 percent of the site is comprised of Glenelg soils Group C/D, which consist of somewhat poor to moderately drained silt loam. Based upon the U.S.D.A. Soil Survey, depth to seasonally high water table ranges from 6 to 36 inches, and depth to bedrock varies between 6 and 8 feet.

## **BIOLOGICAL RESOURCES**

Based on analysis of an aerial photograph of this tract along with a site visit, we have determined that approximately 37 percent of the existing tract is currently inhabited by mature woodlands. A majority of the woodlands lie on proposed Lot 1 which has no proposed development and thus will remain undisturbed. The remainder of the tract is made up of lush meadow land.

## **HISTORICAL RESOURCES**

According to the Chadds Ford Township Comprehensive Plan Visioning Workshop Map, noting historical landmarks, places, trails and roads that are highly celebrated, there are

no historical landmarks located on this subject tract. According to the Historic and Natural Resources Plan within the Comprehensive Plan, the tract is located within an Open Space Protection area.

### **VISUAL RESOURCES**

Based on analysis of an aerial photograph of the tract along with a site visit, a large majority of the site is uphill of the Lot 1 portion of the tract, which is comprised of mostly woodlands. Thus, most of the remaining tract looks out on the woodland area in this portion of the tract. The scale of the proposed development and the topography of the site in relation to adjacent properties will allow the "public view shed" identified in the Comprehensive Plan to be maintained.

### **COMMUNITY FACILITIES/SERVICES, SOCIAL/DEMOGRAPHIC CHARACTERISTICS**

Based on current estimates of household size in Chadds Ford Township being 2.53 persons per household, the proposed development can be projected to add approximately 21 residents to the Township population and 5 children to the school system. This figure represents an increase of less than 1 percent of the total Township population, according to 2010 Census figures which claim a population in Chadds Ford Township of 3,640 persons. This increase is negligible and should have little, if any, impact on community facilities and services.

Police protection in Chadds Ford Township is provided by the Pennsylvania State Police. Fire and rescue services are provided by the Concord Fire & Protective Association, with emergency service provided by Delaware County Emergency Services (911 Center). Capacity for service to the proposed development has been confirmed.

Chadds Ford Township residents are served by the Rachel Kohl Community Library, which participates in the Delaware County Library System. The Township shares a school district with Unionville, which includes Chadds Ford Elementary School, Unionville Elementary School, Pocopson Elementary School, Hillendale Elementary School, Patton Middle School and Unionville High School (Grades 9-12).

Public recreational facilities in Chadds Ford Township include the Harvey Run Trail, which includes a 5-mile natural surface trail network stretching through 300 acres of preserved open space, as well as several bike trails. There are also several other points of interest including Hank's Place, Brandywine River Museum, Brandywine Battlefield, Chadds Ford Historical Society and the Sanderson Museum. Population based standards suggest that additional park facilities may be desirable to serve future township growth.

### **UTILITY NEEDS**

The proposed development will utilize on-lot septic systems for sewage disposal and on-lot private wells for potable water. Four individual test wells were drilled and

constructed on this site. One well was located in each quadrant of the site and the wells are at least 300 feet apart. The results of the drilling and aquifer testing program suggest that individual water supply wells will be capable of serving the typical domestic supply well needs of the proposed subdivision without causing adverse effects to the stream base flow of existing area water supplies. The results of the preliminary water quality sampling further suggests that point of use treatment systems be provided to reduce turbidity, total iron, total manganese, neutralize pH, and improve the color and odor of the sampling.

Stormwater runoff for this subdivision shall be managed with seven proposed drywells. Thereby, infiltrating stormwater runoff onsite. Furthermore, PECO Energy and Verizon should have sufficient capacity in their systems to service this subdivision.

### **TRANSPORTATION/CIRCULATION NEEDS**

Access to the proposed subdivision shall utilize driveways from Ridge Road (S.R. 3048) and Ring Road (S.R. 3027). Both Ridge Road and Ring Road are State Routes, function as local roads, have two 10' wide lanes without shoulders or center medians, and have 35 mph speed limits. According to the Chadds Ford Township Comprehensive Plan, Ridge Road is 2.8 miles long with an annual average daily traffic of 2,342, and Ring Road is 1.4 miles long with an annual average daily traffic of 1,667.

According to the Pennsylvania Department of Transportation's Policies and Procedures for Transportation Impact Studies, a traffic impact study is only required when a land development is expected to generate 3,000 or more average daily trips or 1,500 vehicles per day. Being that this subdivision is only proposing 8 new residential lots, the increased traffic circulation will not have a significant effect on the overall traffic circulation of the surrounding area, and a traffic impact study should not be required.

Access to Lots 1, 2 and 3 shall be provided via a common driveway off of Ridge Road. Access to Lots 4 and 5 shall be provided via individual driveways off of Ridge Road. Access to Lots 6, 7, 8 and 9 shall be provided via individual driveways off of Ring Road.

### **ECONOMIC CHARACTERISTICS**

Under the current tax structure in Chadds Ford Township, the proposed development can be expected to result in a significant budget surplus during the two-year buildout of the project and a modest budget surplus thereafter. At the present time, there is no township real estate tax; however, township property is subject to a transfer tax (one percent each to the township and state) and township residents pay a one percent earned income tax (split between the school district and the township). The annual household income for this proposed subdivision is anticipated to be approximately \$150,000. The local economy of Chadds Ford Township will only benefit from the increase of residential occupancy in this area.

## **BENEFICIAL AND ADVERSE EFFECTS OF PROPOSED DEVELOPMENT**

What may be viewed as the primary adverse impact of the proposed subdivision is the loss of existing vegetation and open space. However, almost all of the existing woodlands on the tract will remain. Furthermore, none of the open space area is currently used for agriculture, so the disturbance of this will not result in the loss of produce or farm products.

To compensate for the vegetation which will be removed and to otherwise enhance the development, the landscape plan for this subdivision will supplement the existing natural buffers along the site perimeter and will incorporate street and shade trees. The shade trees shall be provided on every lot as per Section 110-36 of the Chadds Ford Township Subdivision and Land Development Ordinance. Additional plantings will be provided by the future homeowners around their single family dwellings.

The proposed development will result in a significant reduction in the amount of stormwater runoff to the surrounding areas. While the construction of impervious surfaces on the site reduces the rate of infiltration of runoff directly to the groundwater system, natural recharge of groundwater will continue through percolation into the existing wetlands via proposed infiltration drywells. The proposed subdivision will contribute to the desired future development and visual appeal discussed in the Chadds Ford Township Comprehensive Plan, as well as boost the community's local economy.

## **ALTERNATIVE DESIGNS**

Two different residential design layouts were evaluated for this site. The first layout utilized a conventional subdivision design, comprised of twenty one individual lots, one lot contains the existing dwelling, two lots are comprised of approximately 2 acres each, and the remaining eighteen lots are comprised of an average size of 0.82 acres. This layout consisted of access to the two larger lots via driveways along the frontage of Ridge Road (S.R. 3046) and an internal road accessing from Ring Road (S.R. 3027) with three cul-de-sacs. The individual lots would be serviced with on-lot septic and on-lot wells. There is no common open space with this design.

The second layout evaluated a similar layout to the previous, except with eleven individual lots, one lot which is the existing dwelling and related structures situate on the portion of the tract towards the southwest property line, subdivided to be 3.65 acres, with the remaining ten lots having an average lot size of 1.14 acres. This layout consisted of access to Lot 11 by the existing driveway off of Ridge Road, and an internal road accessing from Ring Road with 2 cul-de-sacs. The individual lots would be serviced with on-lot septic and on-lot wells. This layout features three Open Space areas: Open Space 1 with an area of 9.15 acres in the predominantly wooded area in the western corner of the tract, Open Space 2 with an area of 4.35 acres in the southern corner of the tract and Open Space 3 with an area of 1.72 acres in the eastern corner of the tract.

Not Two "N"

O.K. ✓

## REMEDIAL, PROTECTIVE AND MITIGATIVE MEASURES

The development plans for Shirley L. Dambro have been designed in a manner intended to preclude or otherwise minimize any adverse impact on the site or on surrounding properties. The lots shall be accessed with driveways and the proposed houses shall be located near the front yard building setback lines to minimize the extent of earth disturbance. By locating the houses closer to the existing roads the amount of proposed impervious coverage shall be reduced. Also, extensive landscaping is proposed to mitigate visual impacts of this proposed subdivision. The proposed landscaping shall consist of deciduous trees, evergreen trees and shrubs. The proposed trees and shrubs along Ridge Road and Ring Road shall be layered and staggered to enhance the buffer. The proposed street trees shall be offset from the existing overhead electric lines along Ridge Road and Ring Road by twenty feet to avoid any conflicts and the need for future pruning. However, with any development, grading will be required and stormwater management will be provided.

Stormwater management for the increased runoff will be provided with seven infiltration drywells. These drywells will be designed in accordance with Chadds Ford Township ordinances such that post-development peak discharge rates will not exceed pre-development peak discharge rates, as follows: the post-development peak discharge rate for all storms up to a 10-year storm will not exceed the pre-development peak discharge from a 2-year storm; the post-development peak discharge rates for the 25-year, 50-year, and 100-year storms will not exceed their associated pre-development peak discharge rates. Based on the proposed stormwater management plan, there should be no adverse impact on the existing drainage system located within the surrounding areas. A Stormwater Management and Drainage Calculation Report for the proposed subdivision, has been prepared by Regester Associates, Inc., and submitted under separate cover with the preliminary subdivision application.

Before any earthmoving activities may begin on this site, the developer must obtain an NPDES Permit and approval of the soil and erosion control plan from the Delaware County Conservation District. The erosion and sedimentation control plan will include provisions to direct the construction sequence, provide and maintain erosion and sedimentation control measures and address any unforeseen conditions. There is no proposed encroachment on to the existing wetlands. All erosion and sedimentation control measures used during construction will be designed, installed, and maintained in accordance with the Pennsylvania Department of Environmental Protection criteria and Chadds Ford Township requirements. These control measures shall include silt fence, super silt fence, orange construction fence, erosion control blankets and various other erosion and sedimentation control measures. Occupational Safety and Health Administration requirements will be strictly adhered to with regard to emissions, fire protection, and noise control. The air quality will be controlled with watering trucks, if necessary, to eliminate dust. Illumination control should not be an issue since there are no street lights proposed with this subdivision and construction lights will not be utilized.